



The Friends of Ruaha Society

# FORS News

Volume 14  
Issue 1

February  
2005

FORS is a registered NGO based in Iringa, Tanzania near Ruaha National Park. FORS was started in 1984 to assist with the task of safeguarding the wildlife in the park and its environment. However, in recent years, FORS has changed its focus to involve the communities on the eastern boundary of the park. FORS strives to **increase the responsibility of the local communities around the park, in Idodi and Pawaga divisions, to slow the destruction of the environment and assist in the search for new balances between people, wildlife and the environment.**

## Environmental Education in Action

Our Environmental Education Programme has been going from strength to strength. In the first half of the year, the teachers implemented the water and weather modules, and were very enthusiastic about how it all went. In September and October FORS and our partner schools started on our third module – wildlife. Our coordinators, Sarah and Anna Maria, led lively workshops to introduce the

lessons and work on more teaching methods. By now the teachers are becoming accustomed to the workshop format and are able to provide more input to the sessions. Children spent the next few weeks learning about wildlife through games, art, and research. This time, the wildlife module was supplemented by trips to the national park for teachers and for some of the students in each

school. (see below for report on park trips)

We had planned to carry out the final module, dealing with the topics of soil, forests and fire in December. But when Sarah and Anna Maria turned up in Idodi to conduct the workshops, they found that the schools had been closed for two weeks – the teachers

★ Continued on page 6

### INSIDE THIS ISSUE:

Mzee Tengenezwa's Fresh Honey	2
World Challenge Expeditions at Kitanewa Primary School	3
Cultural Exchange Program	3
World Environmental Day Celebration	4
Water Film	4
FORS Funding	5
Trustees	5
Msembe Primary school as a new school in FORS Environmental Education Program	5
New Committee	5
Idodi Secondary School	6
Great Ruaha River News Flash	6
The Great Ruaha River by Peter Baur	7
Environmental Educational Follow Up Visits	8
FORS Shop	8
Fundraising in Dar es Salaam	8
Plane	8
Monitoring and Evaluation Course	9
Mr. Sweatman's visit to Isungaviula, Ruaha National Park	9
Website	9



Mr. Shafuri of Ruaha National Park explains to Idodi students about elephant dung.



Teachers of Mlowa Primary School enjoy seeing elephants on their game drive.

## Educational Safaris to Ruaha National Park

FORS believes that it is vital that people living alongside the national park should have the opportunity to understand what goes on inside the park. The vast majority of children and adults in these villages have never set foot in the park and know nothing about why it exists. FORS therefore arranged for selected students and teachers to visit the park. With the generous donation from Eli Weiss and WildiZe, and the assistance of the Wildlife Conservation Society and MBOMIPA (the local village association), who assisted with transport, and Ruaha National Park staff, FORS was able to provide trips for all of the

teachers within our programme as well as trips for all Standard 2 and Standard 6 students. Mathias Mtove, the Environmental teacher from Kitanewa Primary School reports on the teachers' trip:

"Environmental issues are very critical for all people in the 21<sup>st</sup> century. Many parts of the world are affected by environmental destruction and the main causes of the problems are human activities.

A trip for the teachers of Idodi division to go to Ruaha National Park was of high importance because teachers are those who are very important in shaping the

future of society as they have the responsibility of implanting knowledge to the future generations.

FORS sponsored trips for the teachers so that they could learn practically what is going on about environmental issues, and the importance of environmental conservation in Ruaha National Park and its surrounding areas.

Objectives for the teachers' trip were to learn how to recognize wildlife by scat and tracks; animal lifestyles; types

★ Continued on page 2

Continuation of page 1

of vegetation in the park and its importance to the animals; problems facing the Great Ruaha River due to irrigation in Usangu and other dry season water problems; and how to live in harmony with animals.

All these objectives were met effectively by TANAPA (Tanzanian National Parks) and Dr. Peter Coppolillo of Wildlife Conservation Society. Dr. Coppolillo and the guides from TANAPA were very knowledgeable and told us many interesting things about the animals of Ruaha National Parks. The teachers had an opportunity to survey the park and saw plenty of wildlife, even some which cannot be found in other places, e.g. wild dogs.



**Class six students finishing their safari in Ruaha National Park.**

We hand over our congratulations to FORS who planned the trip for the teachers which will enable them to teach effectively the topics about environmental conservation and wildlife for the benefit of us and future generations. It is our expectation that this Environmental Education Programme will be sustainable.”

**Students' trip to the park**

In October, the FORS schedule was made even busier and more fun by the mammoth task of taking over 1000 children into Ruaha National Park for a day of wildlife viewing. The logistical challenge of ensuring that a functioning lorry arrived at one of the nine schools every day for three weeks to take up to 50 children to the park was daunting, but FORS overcame all obstacles and the children all had a wonderful day observing animals and other forms of wildlife, many of which they had never seen before. They were shown round by Ruaha National Park guides, who not only



**Class two students enjoying their trip to Ruaha National Park. October 2004**

have an impressive store of information, but also who are able to make the experience fun and memorable for the children. At the end of the day, the students had a meal and a talk from a member of TANAPA staff.

We will let the following quotes from the students tell the rest of the story!

**STUDENT QUOTES:**

**“Why do giraffes walk so gracefully?”**  
—a student from Idodi Primary School Class 2

**“The river has no water!”**  
—a student from Makifu Primary School Class 6

**“Elephants can really dig for water!?”**  
—a student from Mafuluto Primary School Class 6

**“I must tell my father that God is great for having created animals like the giraffe”**  
—a student from Mlowa Primary School Class 6

**Mzee Tengeneza’s 100% Fresh Honey**

A major objective of FORS continues to be the search for new balances between people, wildlife and environment so that all can exist sustainably. Poaching remains a problem in the Ruaha area, largely due to a lack of alternative sources of income for the local people. In an effort to support local villagers, and reduce poverty, FORS is assisting in small income generating projects in the villages around the

park. One successful project is *Mzee Tengeneza’s 100% Fresh Honey*.

Mzee Tengeneza lives in Makifu, the closest village to the boundary of Ruaha National Park. He is very excited about the project of selling his honey to the camps in the parks and to other people in Iringa Town. He has over 700 beehives in the forests of Makifu. He proudly displayed his permit, which shows he is

the legal owner of the hives and

therefore not a honey poacher! At the moment, FORS provides clean sterilized jars for the bottling of the honey once he has harvested it. After bottling, FORS labels the jars for sale. The honey is sold for TSh 1,500/= (about \$1.50). FORS keeps a small portion of the money to cover the labelling and bottling costs. The rest of the money goes to Mzee Tengeneza. In the long

term, we would like to see Mzee Tengeneza do his own bottling.



**Mr. Tengeneza outside his house**

## World Challenge Expeditions assists building new Kitanewa Primary School

In July, one of our members, Richard Phillips of Kibebe Farm near Iringa, contacted us about some students who would be visiting Tanzania. These students were involved in World Challenge Expeditions and were interested in doing some small work projects in rural Tanzania. We decided that Kitanewa Primary School, one of the schools in our Environmental Education Programme, could benefit from this sort of help. Kitanewa was in the process of building a new primary school closer to the village. However, they lacked the funds and labour to continue building.

Therefore, we connected World Challenge Expeditions with this school. Here is what A. Nyamahanga, the teacher reported:

“The building of the new Kitanewa primary school started in 2003. The village government decided to find another site because the present school experiences the following problems:

1. The school was given a small tract of land by the Roman Catholic Mission and there is no space for new buildings, e.g. more classrooms, staff houses or even playgrounds.
2. The school is very far from the village, so pupils find the walk too long and this is reflected in poor attendance.

3. Some parents send their children to other schools to avoid the long walk.

The government gave us money to build two classrooms and one office, but we found that we couldn't manage the painting.

World Challenge Expeditions, luckily, arrived at Kitanewa and saw the problems of the school. At first they bought 40 tins of paint, which was used for painting both classrooms and one office. Now, that the classrooms are painted, they are beautiful and attractive. But not only did they buy paints, as well as perform the labour of painting, they also bought 40 bags of cement for finishing the third classroom. With their help, all walls have been plastered both

inside and outside, and the floors have been surfaced. The classroom is nearly complete with the exception of a roof, windows and a door! Wonderful enough, most of these activities were done by the students themselves, such as painting and fetching water for the cement. Indeed, it was lovely.

Our thanks to the World Challenge Expeditions, Friends of Ruaha Society and Richard Phillips are beyond compare. World Challenge Expeditions will never be forgotten by Kitanewa primary school and the whole society around it who worked together with them to make the work succeed.

We know you are really busy, but we kindly ask for you to spare time to one day visit us again and see the progress! Come one, Come all to Kitanewa!”



## Cultural Exchange Programme

Earlier this year FORS linked with two American schools in order to facilitate an exchange between the village schools we work with and some American teachers and students. The following is a brief description of the experience thus far, written by a parent at the All Austin Cooperative Nursery School in Austin, Texas:

“In January, 2004, FORS

and the All Austin Cooperative Nursery School in Austin, Texas launched an exciting new cultural exchange program. The Texas-Tanzania Photo Exchange (otherwise known as Ushiriki wa Picha) connects the Co-op with the village school in Makifu – a friendship that couldn't happen without the enthusiastic help of FORS volunteers and board members.

Our initial goal at the Co-op was to provide the Ruaha-area village schools with single-use cameras and the means with

which to develop them. Our own educational approach makes liberal use of photography as a way to document and revisit learning – an experience we wanted to share. In April, we took students on a field-trip to the post office, where we sent off a huge box of cameras, film, tape recorders, audiotapes, art and personal messages. By late spring, our school and the school at Makifu had exchanged photos and letters, audiotapes, self-portraits

and good will – and we'd just begun.

This year, we have our own version of a three-stone stove in our play-yard at the Co-op... we're sharing the African map and African music with our students... a Co-op parent is now our dedicated liaison for the project ... and our second camera drive has begun. Our family was lucky enough to be visit Tanzania in December so we were able to hand-delivering this year's donations to Makifu!

All in all, this has been a

lovely beginning to what we hope will be a long and fruitful friendship. Our gratitude goes to FORS!”

-- Liz Scanlon  
President-Elect, All Austin Cooperative Nursery School  
(and sister of FORS board member Christina Coppolillo)

“I like this exchange project because it is perfect for the age group I teach. Five-year-olds are ready to expand their world beyond the immediate environment in which they live. This is such a unique chance since we have a personal link through Liz and Chris. And I love watching the way the project develops and grows.”

-- Maatike Worde,  
Teacher, All Austin Cooperative Nursery School

“The ways in which we are the same and the ways in which we are different are brought home to me in a very immediate way. It seems to me that we live in such different societies and yet at the same time we have similar curiosities about each other and a similar desire to learn and to care for the planet we share.”

-- Jennifer Saltman, Director, All Austin Cooperative Nursery School

# World Environment Day

World Environment Day is celebrated on the 5<sup>th</sup> June each year. It has become traditional for FORS to organise a celebration to mark the day. This year it was at Makifu Primary School, the nearest school to the park. The theme of this year's celebrations was 'protection of water sources'.

Representatives from nine schools were brought to Makifu by a TANAPA lorry. Local government officials, FORS staff, representatives from the Education Department in Iringa attended, as well as villagers and students. The Guest of Honour, Mr.



Hante, the Head of the Department of Lands and Natural Resources in Iringa, and other invited guests were taken on a tour of the school

compound. Makifu school, for the second time, was this year's winner of the school environment competition. It was a good opportunity for other schools to appreciate and learn from the hard work and initiative of the Makifu community. The guests visited a nearby wooded area which had many planted trees and bandas made by the students for relaxing in. There was also an area where the school displayed local environmentally friendly initiatives, e.g. fuel efficient stoves and locally made baskets for temporary storage of waste.

Their creativity was very impressive.

There were a few short speeches from the Guest of Honour,

the FORS chairperson, Dr. Dulle, and other guests. Each primary school had prepared either a song, a drama or a debate. The

choirs had good messages about environmental protection. With happy faces, the singers

were dancing and swinging while delivering messages to the crowd. The favourite performance was a drama from Idodi primary school. The drama was about deforestation in the village, some acted as women collecting firewood, poachers and their activities. There was a very fierce village officer, wearing a tie and carrying a briefcase who took immediate action against the poachers. Both Swahili and Hehe languages were used, which made the parents shriek with laughter. They were all happy to see their own children taking part in so varied performances.

Prizes were presented, for last year's drawing competition, whose theme was 'water is life', and for the best school environment. Dr. Dulle presented the prizes, then all the invited guests had a meal together.

The celebration also in-



cluded football and netball matches. The adult game was between Mahuninga ward and Msembe (Park HQ). The students netball and football were also between schools in Mahuninga ward vs. Msembe primary school. The games were cheered by a large enthusiastic crowd. At the end, the winners were given prizes – for Msembe, the winning adult team, a healthy goat, a certificate and a ball, for Msembe primary school, who won the football, a ball, a certificate and a FORS t-shirt for every player. The netball ended in a draw so the prizes were shared between the two teams.

A variety of environmental awareness messages were sent out to parents and relatives who were present. People were happy and were ready to go back home as the sun was setting.

## Water film

Ben Please of the Brock Initiative writes: "The Brock Initiative was founded in June 2003 by Richard Brock, producer of the BBC's Living Planet and Life on Earth series. Richard left the BBC to promote and pilot the idea that locally made films, targeted towards specific audiences can make a real and positive impact on the environment - and radically more so than the big

budget productions shown on the TV to millions of uninvolved viewers. He also wanted the natural history film making business to "giveback" footage, enhancing the feasibility, quality and effectiveness of these projects.

In November 2003 I approached FORS, along with many other organizations, about using film as a conser-



vation tool in their work. The enthusiasm with which FORS responded and the potential they saw with it ensured that

we went ahead. We offered our archive of professional footage and shot new material for free. In return, FORS helped with the logistics on the ground and invested their time and creative energy in the project to ensure that the film we produced would be just what they wanted.

The goal was to produce a short film to enrich and encourage the teaching of the

★Continued on page 6

## Trustees

The trustees are in regular contact by email and post. Emma Forrester and Martin Walsh met in Oxford at the beginning of October and a full convention of all four trustees is now being planned for the new year (2005) to discuss our strategy for fundraising and raising awareness of the existence of FORS, using our particular fields and work places as a starting point.

In October Martin presented some of the Ruaha issues to a conference in Oxford on 'Trees, Rain and Politics in Africa'. His paper 'Pangolins, Science and Scapegoats: Environmental Narratives and Conflicts in the Great Ruaha Catchment, Tanzania', can be downloaded from the RIPARWIN website.

In November Martin also presented a paper in Bradford at the first of a series of seminars on global water governance. Several of the participants had worked in Usangu, and Ruaha matters were discussed in detail in a paper by Tom Franks, the former SMUWC Project Manager. This and other seminar papers can be downloaded from the website of the Bradford Centre for International Development.

Jan Corlett has been in further contact with WWF concerning the drying up of the Ruaha river and is waiting for an update on their programme. She has also made moves for the re-instatement of FORS as a UK-registered charity (it is of course already a Tanzanian charity), ready for our UK fundraising efforts.

Emma has been getting to grips with the admin which we inherited from the outgoing trustees, and wishes to thank everyone who has sent donations and subscriptions from all over the world. She liaises regularly with the Iringa office to keep the membership list up-to-date.

Claire Campbell visited Tanzania this summer with her two children, and took in a visit to Ruaha, camping near a family of baboons. She says it was the first time she'd been to the national park at this time of year and it really was beautiful. She also visited the FORS office and met Sarah and Anna Maria.

**The Bradford Centre for International Development** (<http://www.bradford.ac.uk/acad/bcid/seminar/water/reference.php>).

**RIPARWIN website** ([http://iwmi.org.za/RIPARWIN/\\_downloads/OtherLinks-PangolinsScienceAndScapegoats2004.pdf](http://iwmi.org.za/RIPARWIN/_downloads/OtherLinks-PangolinsScienceAndScapegoats2004.pdf)).

## FORS Funding

We would like to thank the following organizations and individuals for their very generous support, received since May 2004:

- Tusk Trust
- Wildlife Conservation Society
- All Austin Cooperative Nursery School
- Sarah Lawrence College
- The Gehans
- Julia Loo-Sutcliffe

- The Fliakos Family
- Ralph Jr and Joy Ellis
- Susan Schwimmer
- Jane Stolberger
- Michael Sweatman
- Peter Bringer
- Sue Stolberger
- Rob Glen

And last but not least, we would like to thank all our members for their interest and support in our programme.

## New Committee '04-05

Dr. Charles Dulle—new chairman  
Annet Witteveen—returning treasurer  
Kate Forrester—returning secretary  
Sue Stolberger—returning committee member  
Dorothy Bikurakule—new committee member  
Christina Coppollilo—new committee member

Our returning committee members were introduced in the previous issue of the newsletter. In this edition, we introduce the new committee members.

**Christina Coppollilo:** Chris comes to Friends of Ruaha with a background in education. She is a primary school teacher with classroom teaching experience and a masters in education. By developing a curriculum that uses well-researched and practiced teaching and learning methods while integrating local resources and expertise, Chris hopes to help FORS achieve its vision of solid environmental education for Tanzanian school children.

**Dorothy Bikurakule:** Dorothy, like Chris, is a new member of the committee this year. She has valuable experience working in the villages on the eastern boundary of Ruaha National Park with Mbomipa project. Now she works as a project officer for Intercooperation, an organization dealing with livestock and natural resource management

## New Schools in the Environmental Education Programme

Last year, two new schools joined our Environmental Education Programme - Msembe and Mafuluto. Msembe is a primary school located at the park headquarters, and the following report was written by one of the teachers:

'We are very happy to be involved in the program. Being a new school in the programme, we have learnt various teaching techniques and fun materials. The students are active and

participatory. Nobody wants to miss classes. The students deliver environmental messages to their parents according to the current topic in the air. Thus, the environmental education reaches the community in Ruaha National Park as well. We suggest that the programme should be a sustainable one so as to maintain the unique environment in and around Ruaha National Park.'

*Written by I. N Nganjje  
Msembe Primary School, Ruaha National Park.*



Issa Nganjje overlooking group work in standard 6 at Msembe Primary School

Continuation of page 4

new primary school environmental syllabus. This film would then be incorporated into one of the educational packs that FORS was producing, and shown on a mobile screening unit at the target-area schools. Although there were many topics that could have been covered, it was decided that water was the most pressing issue in the region.

Production spanned two visits to Iringa, during both the rainy season and (a very

dry season. WCS also became involved, kindly offering two filming flights over the Ruaha area, greatly enriching the project. On one flight we were even able to take up Faraja Mramba, a pupil from a local primary school, to film his reac-



**David Moyer, Anna Maria Simon, Ben Please and Faraja Mramba before take off over the Ruaha River.**

tions to what he saw. The film included shots of local water sources, school children talking about the importance of water, a graphic description of the water cycle, and problems connected with water, especially in the Idodi area.

Editing was carried out both in

Iringa and the UK, and after a final checking at the end of this year, the video went off for production. In addition, a number of different versions and off-shoots were also produced.

The film will be incorporated into the work of FORS in 2005, and they will provide feedback on its progress as a conservation tool. If it proves to be as effective as anticipated then we hope that more films might follow to expand the resource.

*Ben Please, Brock Initiative, UK*

## Idodi Secondary School

Mali Hai Club at Idodi Secondary School has now become an active Environmental Club. The group's main objective is to take care of their environment, making it clean, attractive, and sustainable for the future.

Last year the club was involved in several activities. They planted trees around the school compound to act as windbreaks to help protect the school grounds from strong dusty winds that blow during the dry season. In the coming months FORS plans to sponsor other environmental guests for the club's learning enjoyment including a birding expert, an ecologist from the Wildlife Conservation Society and other experts in wildlife, tourism, agriculture and for-

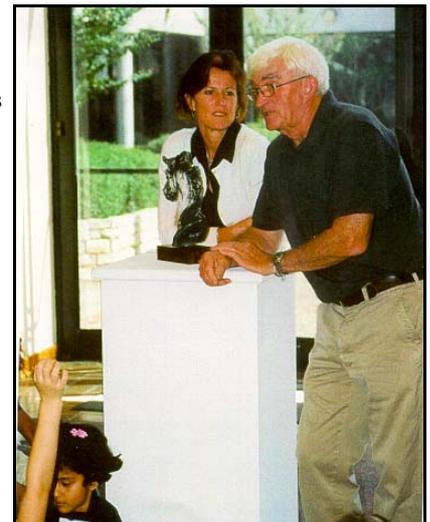
estry. These resource people share their useful knowledge as well as perform practical activities with club members.

FORS is also providing Mali Hai with environmental films. The students recently viewed "Running Dry", a film about the water shortage problem in Kenya. After watching the video, they held a discussion comparing what they saw in the video to issues in their local community.

Further afield, there has also been a flurry of activity. After much discussion about setting up an environmental library and resource room, it finally looks more likely to come true! Committee member and avid FORS enthusiasts, Sue Stolberger and Rob Glen have been working hard in America the past few

months putting on an exhibition of their painting and sculpture, but at the same time managing to raise funds for the library. Rob and Sue auctioned off an oil painting and a bronze sculpture on the opening night of their exhibition and managed to raise \$10,000, all of which will go directly towards building a library at Idodi Secondary School. They would like to thank Mr. and Mrs. Raph Jr and Joy Ellis, in particular, for their generosity. We would now like to recruit a new volunteer to oversee the construction and equipping of the library, and to involve the students in the process as much as possible. This new

volunteer would also assist with the running of the environmental club, which Sarah and Anna-Maria have found difficult to fit into their extremely busy schedule.



**Sue Stolberger and Rob Glen at their Gallery showing 2004**

### RUAHA RIVER NEWSFLASH

The Ruaha at Jongomero stopped flowing on the 3rd Nov 2004. Thankfully this year, the rains have started a little earlier than usual...so the river began flowing on the 4th of Dec 2004. Plus, the water from Usangu arrived on 9th Jan 2005.

It took until Christmas Day for the water to reach the Warden post, 120 Km downstream in Lunda. This is a great improvement on last year. Let's hope the rain continues!

### Environmental Education in Action

Continuation of page 1

were assisting with the registration of voters for next year's election – and there was not going to be time for the final module. Fortunately, it was held in January.

The environmental education experience has been a resounding success for almost 4000 school children and their teachers. With

opening of schools in January we continued to refine the curriculum and offer support to the teachers and students we have so successfully worked with this past year. In addition, our next goal is to find funding to begin work in the ten schools in Pawaga division, which also borders the park, as well as to begin to disseminate our environmental education curriculum throughout Tanzania.

## Why does the Great Ruaha River dry up in the dry season?

In our last issue we had a detailed analysis of the drying of the Great Ruaha River written by Sue Stolberger. The reasons for the loss of flow in the river in the last decade are not clear cut and there is still much debate as to the exact causes. In this issue we have a contribution from Peter Baur, a hydrologist who carried out studies under the SMUWC project.

From Peter Baur, Hydrologist, Water Management Consultants Ltd, Shrewsbury, UK  
pbaur@watermc.com



There has been much debate over the last 10 years about why flow in the Great Ruaha River has ceased each dry season since 1993. An opportunity to find out using scientific methods was afforded by the project 'Sustainable management of the Usangu wetland and its catchment - SMUWC'. Funded by the UK Department for International Development between 1998 and 2001, a team of professional hydrologists from Water Management Consultants and the University of Dar es Salaam undertook detailed studies of all the historical hydrological data. We also collected a lot of new information, particularly on irrigation practices, and made many observations and analyses in the field in order to understand the causes of the changes. If the causes of the problem could be identified, this should suggest what the solutions should be.

Our analysis of the historical river flow records for the Great Ruaha downstream of Usangu showed that over the period 1958 to 1998 hydro-

logical change has been limited to the dry season; there has been no similar long term trend in flows through the park during the wet season.

Our studies suggested there were four causes of the decline in dry season flows in the Great Ruaha River, and that they all acted together to bring about the changes that have been observed.

Firstly, a slight decreasing trend in rainfall was detected in some historical records of the 100 or so rain gauges situated in and around the Usangu catchment. However it was not possible to determine whether this trend translated into a significant reduction in flows in the rivers that descend from the 'high catchment' which surrounds the Usangu Plains and which is the source of most of the flow in the Great Ruaha River in Ruaha National Park. Further hydrological investigation is needed to determine this.

Secondly, people living along rivers in the high catchment irrigate vegetables in the dry season. Irrigation is a factor that would tend to contribute, along with any reduction in rainfall, to reduce river flows into the Usangu lowlands. However, again, we were unable to provide firm evidence to quantify the effect.

Thirdly, we estimated the diversion of water from rivers by large irrigation schemes and smallholders in the Usangu Plains for the cultivation of rice, which is a wet season activity, to average about one fifth of the total wet season river flow in an average year. Analysis had already shown that there was no historical trend in the overall total volume of water flowing down the Great Ruaha River in the wet season. In order to account for the lack

of long term changes in wet season flow downstream, it seemed that the water abstracted for irrigation broadly equalled the amount of water that would have been lost naturally by evaporation from the wetland, which would have covered a bigger area, prior to the construction of the irrigation schemes. In other words, the evaporation losses that occurred in the wetland transferred to the irrigation areas when they were built, but no change occurred in the flows into the river downstream. Another analysis of the flow records was done to see if irrigation was delaying the arrival of the annual flood in the Great Ruaha downstream of Usangu. No delay was found. We concluded that although rice irrigation is responsible for significant abstractions from rivers during the wet season it does not affect the time of rise of river flow downstream of Usangu, nor does it noticeably reduce wet season flows in the Great Ruaha. However, theoretical calculations suggested otherwise, and so the jury may be said to be out on the effect of this issue.

Fourthly, and most importantly, in 1999 and 2000 diversions of water from the rivers into the irrigation areas in Usangu did not cease when the rice irrigation season ended, but continued right through the following dry season. As flow in the rivers from the high catchment declined naturally as the dry season progressed, an increasing proportion of that flow was abstracted until all flow was being diverted, leaving the rivers dry downstream of the irrigation areas. At this time flow into the Usangu wetland ceased. Water in the wetland, which acts like a saucer, continued to flow into the Great Ruaha for a time but then

ceased because there was no inflow. The wetland did not dry up completely—it remained flooded—but evaporation continued causing the water level to fall below the lip of the saucer and the flow into the Great Ruaha to cease until flow into the wetland resumed at the beginning of the next wet season causing the saucer to overflow once more.

In 2001 these four factors were concluded to be the most probable causes of the drying up of the Great Ruaha River; it is likely that they still are. The most significant was certainly the abstraction of water from the rivers through the dry season. This took place to provide water to villages for domestic purposes, livestock watering and small scale vegetable growing. The quantities of water actually used for these purposes were very small in relation to the amount abstracted and much water was wasted. Provision of alternative sources of water supplies in the dry season and improved participatory planning and management involving the Rufiji Basin Water Office, the managers of the irrigation schemes and the water users are key to restoring the flow in the Great Ruaha River.

The hydrological investigations formed just one component of the SMUWC project. A wide range of other studies of Usangu's natural resources and capacity building of local authorities was done to understand how resources are used by local people and lay the basis for a sustainable integrated environmental management plan to be developed by stakeholders for the benefit of resource users within the catchment and those downstream. All these studies were written up in a series of technical and non-technical reports, available at the Rufiji Basin Water Office in Iringa.

## Environmental Education Follow Up Visits

We have found that follow up is of vital importance to boost the confidence of teachers and to keep the momentum of the new activities going. We make follow-up visits every two weeks to see the progress and to gain valuable feedback which we use when we are refining the lesson plans or making new ones. All the schools are doing fabulously.

Mr. Mahenge, a teacher from Kitanewa primary school gives his perspective on the follow up provided by FORS:

"In order to achieve the expected objectives to any programme, it is important to make follow up of the implemented activities. Follow up visits can be an effective monitoring tool and hence can lead to an effective evaluation of the project.

FORS held several follow up visits with the teachers so as to gather feedback for the Environmental Education topics. The meetings that were facilitated by Sarah and Anna-Maria clarified further various teaching methods and discussed difficult lesson plans.

Teachers presented their work, shared experiences and discussed difficulties faced in classes. We were also taught new energizers and ice breakers to make the students active. The clarification section cleared any doubt, encouraged us and gave us energy to continue.

The materials prepared by FORS simplified our work and keep the students active. As an outcome, there

has been an increase of student attendance because they love the fun lessons and materials prepared for them. Above all, the nice energizers like 'Chui, Avocado, Sageni Sageni Sapopo' that we have started to use in class were students' favorite games.

It is good get support from FORS through these follow up visit as they are a catalyst to us and keep us on the right track. FORS has been a good example, we hope these visits will still be there next year because they are important for the sustainability of environmental education.



## Plane

We have finally sold our plane! As reported in the last newsletter, after much soul searching, we decided to put the Jabiru on the market, since we felt that the use we could make of it wasn't equal to the time and money we needed to put into it. At first there was no interest at all, but finally it has been purchased by a buyer from Kenya, who will use it as part of an elephant conservation project on the Tana river in Kenya. We are very grateful to Eve Jackson for coming up to Iringa, carrying out some last minute maintenance and flying it down to Dar so that the buyer could pick it up there.

We have yet to decide on what project the proceeds from the plane should go. We would like to thank Tusk Trust once again for so generously letting us keep the proceeds from the plane, which they have given us a great deal of support for over the years. Thank you very much, and we hope you will continue to take an interest in FORS!

## FORS SHOP



Let's start by saying *Congratulations* to Susie, Andy and Grace Hart from Neema Crafts on their new baby girl, Rosie May! Neema Crafts, a local Tanzanian workshop for deaf and disabled people, creates all of the elephant dung products sold in the FORS

Shop. The newest edition to the shop are cards made of elephant dung. These cards feature drawings made by the standard six students of Idodi Division in the drawing competition last year. Order your set today! Neema Crafts shop can be found in Iringa town, in the Iringa Retco building, opposite the NMB bank. You can't miss their distinctive zebra striped doors!

FORS' elephant dung products also include notebooks, photo albums, and picture frames. Another soon-to-be

edition is a new T-shirt design, designed by Pietro of Mdonya Old River Camp. Mdonya has agreed to sell our products and we are jointly producing these new T-shirts. Jongomero camp continues to sell our products as well. Thank you all for the continued support!

See the website for samples of our products:  
[www.friendsofruaba.org](http://www.friendsofruaba.org)

## Fundraising Trip to Dar es Salaam

In November, Kate, Anna Maria and Sarah went to Dar es Salaam in order to make contacts in connection with our environmental education programme. We felt the curriculum we have put together is eminently 'marketable' and there would be organizations which would be interested in it, especially since we have

piloted it for a year. Our goal was threefold – to share what we have been doing, to find out what others have been doing, if anything, in the same field, and also to seek new funding sources.

Many people were very enthusiastic about our work – the Dutch and Swedish embassies are involved in working with the Ministry of Education to mainstream environmental education in the na-

tional curriculum, and suggested that we might be invited to future planning sessions. We had a very encouraging meeting with UNDP, who have amounts of money earmarked for NGOs such as ours. They strongly urged us to apply for one of their grants. We also met with interest at some of the smaller embassies, which also have grants, ranging from \$2000-20,000 for NGOs.

Many people and organizations now know about us in Dar es Salaam, and we feel that FORS is now 'on the map' where Tanzanian environmental education is concerned.

**AGM 2005**  
The next AGM will be held 7 May 2005 in Iringa in the SHILDA office at 11:00 am. Karibuni!

**FORS**  
P.O. Box 692  
Iringa  
Tanzania

**Phone:**  
255 26 2702859 (Annet)  
255 26 2700424 (Kate)  
**Email:** fors@iringanet.com

[www.friendsofruaha.org](http://www.friendsofruaha.org)

FORS is a Non-Government Organisation registered in 1984 with the Registrar of Societies, Tanzania under Charity Number SO 6394.

## How to contact FORS

Anyone who would like to get in touch with FORS for information or other matters are welcome to contact Kate Forrester or Annet Witteveen at the postal or email addresses mentioned on this page.

Tanzania:  
National Bank of Commerce  
H/O Dar es Salaam  
NBC IBD SWIFT: NLCBTZTX  
Iringa Branch  
Iringa, Tanzania  
Branch code: 851528  
Friends Of Ruaha Society  
Account No. 028103002483

Overseas:  
The Ruaha Trust  
Coutts & Co. Duncannon Branch  
4440 Strand London WC2R 0QS  
Account No. 49773270

## Monitoring and Evaluation Course

FORS sent Sarah and Anna-Maria to attend a short course on Monitoring and Evaluation at the University of Dar es Salaam at the Entrepreneurship Centre. The training came at a suitable time, since it provided the coordinators with useful techniques to evaluate the EE programme after one year, and to monitor

whether FORS is going in the right direction. Anna Maria and Sarah met a variety of people on the course from small NGOs, so they had a great opportunity to exchange ideas and experiences. It was also a good opportunity to introduce FORS to people working in different parts of the country, and Anna-Maria and Sarah seized the chance to distribute FORS newsletters and leaflets.



## The Visit of Michael Sweatman of Wild Foundation to Isungaviula Plateau

The Isungaviula wilderness lies in the heart of a proclaimed wilderness zone in Ruaha National Park. This area is of particular note because initial research by Mr Mtahiko, the Chief Park Warder, Robert Glen and Sue Stolberger, shows that altitude and isolation over a long period of time have formed an interesting niche of diversity. It has also been observed, via the presence of certain bird species, that this remote plateau has affiliations with western species. So as well as the park representing the convergence zone of northern and southern species, it could also be a convergence zone of eastern and western species.

In our last newsletter we reported that the Wild Foundation, an organization committed to preserving genuine wildernesses, had generously donated

\$10,000 for Isungaviula, specifically to build an access road and a ranger post so that the area could be better protected from encroachment. The access track to this remote area has now been completed and a

temporary ranger post along this route has also been installed. The track uses the existing park boundary so as not to disturb the area. So regular foot patrols are now taking place to help protect this delicate and special area. Michael Sweatman of Wild Foundation came to visit the park in September 2004 to see the project for himself, and also to see that in addition to wilderness areas that exist all over Africa, there are some very special areas that merit research and preservation.

So we arranged a trip for him to Isungaviula plateau.

## Collaboration with WWF

Lucy Kashaija of WWF-Iringa attended our AGM last year where she learned about the FORS's Environmental Education Program. Intrigued, because she too was in the process of creating a EE Program, she asked Sarah and Anna Maria to present on the program at a later date.

In June, Sarah and Anna Maria attended a workshop on environmental education held by WWF at the Baptist Center in Iringa. During the workshop, WWF, FORS and other stakeholders shared experiences regarding environmental education.

First there was a long bumpy drive to the end of the road at the bottom of the escarpment. From then on it was on foot, up the 1,500ft escarpment. The climb was arduous, but the views were spectacular out across the vast western area of the park. At the top we arrived at 'Kilola Star', an area of riverine highland forest, a cool, green oasis teeming with ferns, orchids and forest birds. It is nothing like the hot arid lands of the valley floor below. There were also leopards, bushbuck and buffalo as well as other game passing through.

Mr. Sweatman later wrote in his report of the trip: "The unique opportunity of spending a few days in this remarkable setting and the fact that I was sharing the wilderness experience with these dedicated people in the heart of Africa ranked with experiences that I recollect with Ian Player and Mqubu in Natal and Botswana nearly 30 years earlier."

## Website

As many of our members know, the website which has until recently been displayed on the internet was seriously outdated. However, with the help of Florian Hofmann, who came to Tanzania for a visit before starting university, we can proudly say that the new updated website should be up and running any day! Florian spent many hours in the FORS Iringa office, designing the website on a volunteer basis. He has done a great job, so keep an eye on the web for the new FORS website:

[www.friendsofruaha.org](http://www.friendsofruaha.org)



# Subscription Form

Friends Of Ruaha Society is a Non-Government Organisation registered in 1984 with the Registrar of Societies, Tanzania under Charity Number SO 6394  
 FORS, P.O. Box 692, Iringa, Tanzania  
 email: FORS@iringanet.com, website: www.friendsofruaha.org

Tanzania:  
 National Bank of Commerce  
 H/O Dar es Salaam  
 NBC IBD SWIFT: NLCBTZTX  
 Iringa Branch  
 Iringa, Tanzania  
 Branch code: 851528  
 Friends Of Ruaha Society  
 Account No. 028103002483

Overseas:  
 The Ruaha Trust  
 Coutts & Co. Duncannon Branch  
 4440 Strand London WC2R 0QS  
 Account No. 49773270

We welcome new and old members,  
 the greater our membership the better our ability to achieve  
 our aims and objectives.

Those who would like to become a member for the present year 2005 are requested to fill in this form and send to the address mentioned above or contact FORS by email!

Those with an account in Tanzania wishing to continue to subscribe by Standing order are requested to fill in the necessary form (each bank has its own) and ask their bank to pay their subscription or make an annual donation on their behalf on the 15th of January each year without further reference to them. Donations made in this fashion are tax deductible under Tanzanian law.

Membership fees	Student/Volunteer	Individual	Family	Corporate
Tanzanian citizen (Tsh)	2,000.00	10,000.00	24,000.00	200,000.00
Expatriate (Tsh)	12,000.00	20,000.00	50,000.00	200,000.00
Overseas (US\$)	24.00	40.00	100.00	400.00
Overseas (£ Sterling)	15.00	25.00	55.00	225.00

Cheques in Tsh. Should be made payable to FORS and sent to P.O.Box 692, Iringa  
 Cheques in Dollars or Sterling should be made payable to the Ruaha Trust and sent to:  
 Emma Forrester, 16 Fernwood, Albert Dr., London SW19 6LR, UK, emma@yseski.co.uk

To avoid confusion, please let us know if you have made a payment to the bank!

Name: .....

Membership:

- (tick)  New member 2005     Membership renewal 2005  
 (tick)  Tanzanian citizen     Expatriate     Overseas  
 (tick)  Student/volunteer     Individual     Family     Corporate

Method of payment: .....

Postal address: .....

Email: .....

Date: ..... Signature: .....